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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,324

01/20/2006

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60004-111US1

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7590

01/19/2010

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EXAMINER

LACLAIR, DARCY D

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

01/19/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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1. Applicants' amendment filed **1/7/2009** has not been entered given that it raises new issues that would require further consideration and/or search.

With respect to other new issues, Claims 5 and 15-21, depending ultimately from amended Claim 1 recites a broad limitation, following the narrow limitation in Claim 1. It fails to further limit the subject matter of Claim 1, and in fact broadens the scope. It is the examiner's position that this is a new issue since the limitations of the claim have changed, creating new rejections which must be set forth and new corrections which are required. Therefore, the amendment would require further consideration.

2. As the amendment is not being entered, those of applicant's arguments with regard to overcoming the prior art rejections based on the possibility of entry of amendment are rendered moot. However, in the interest of compact prosecution, the following advisory is given:

Applicant has argued **(A)** The specification describes a Zn:Si/Al ratio of 50/50 to 99/1, and provides examples in which the ratio was 82/18 to 99/1. One of ordinary skill in the art would recognize that applicants possessed the claimed invention in the range 82/18 to 99:1. Attention is again brought to *In re Wertheim*, which is attached as Exhibit A. This case found that one of skill in the art would consider an endpoint within the more broadly disclosed range where an example is equal to the lower limit of the narrower range. This case is analogous to the instant case, because the specification

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describes a broad range which embraces the narrower range, and provides examples equal to the lower limit of the narrower range.

(B) Takai discloses a water-absorbent composition containing a hydrogel resin and an inorganic metal oxide microfiller, but does not teach or suggest a Zn-Si/Al complex, let alone a unique ratio required by claim 1. Yamada discloses a resin composition having a specific ratio containing less than 67 mass% of ZnO, which teaches away from a mass ratio of 82/18 to 99/1 (corresponding to 82 mass% ZnO or higher.) The examiner asserts that Tai teaches the weight ratio of the Zn compound to the Si compound ranges from 1:5 to 5:1, overlapping the 82/18 – 99/1 range, and asserts a prima facie case of obviousness; this can be overcome by showing that the prior art teaches away from the claimed invention or unexpected results. Tai teaches away from the claimed range: The ranges relied upon by the examiner teach 5:1-1:5, preferably 1:4-4:1, more preferably 1:3-3:1.

(C) The specification describes 11 examples; All of these compositions contained Zn oxide and Si/Al oxide at the ratio of 82/19 or 91/10. As shown, all have an excellent deodorizing effect; by contrast, the comparative examples 5 and 6 contained Zn oxide and Si oxide at the ratio of 40/60; these are not covered by claim 1, but correspond to the Tai compositions, which may contain Zn oxide and Si/Al oxide at the ratio ranging from 1:5 to 5:1; this has significantly lower deodorizing effect, And more H₂S remains in the residue. In short, the compositions covered by Claim 1 are more effective at absorbing hydrogen sulfide. The same arguments apply to those claims depending from Claim 1.

(D) Applicant's will address the obviousness type double patenting rejections when patentable subject matter has been identified.

3. With respect to argument (A), applicant's arguments have been considered but are **not persuasive**. Attention is directed again to *In re Wertheim*, which states: "The inquiry into whether the description requirement is met must be **determined on a case-by-case basis and is a question of fact.**" (See MPEP 2163.04) Although applicant has cited similarities between the Wertheim case and the instant case, these apparent similarities do not render the case an exact duplicate, and therefore the facts are reviewed again. The issue at question is not whether 82/18 is supported as an endpoint, in and of itself, but whether that range is supported **in combination with** the claim as written. Applicant currently recites any resin prepared by polymerizing an unsaturated monomer having an acid group and/or salt thereof; furthermore, the claims do not recite any compositional amounts for resin and oxide hydrate content. This is a VERY broad recitation, which is not commensurate in scope with the claims. The data provides 6 specific resins, only 1 of which is used in comparative examples, and uses only a content of 0.50 mass parts of the oxide hydrate to 100 parts of resin, with the other sole example providing 0.1 mass parts per 100 parts of resin. This is an extremely narrow composition, yet there is no recitation in any claim which limits the content of oxide hydrate per 100 parts of resin in any way. Additionally, there is only a single example having Zn/Al. Additionally, the examples use only a single particle size, a diameter of 0.36 μm , with the comparative examples being the only ones to vary in

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size; as size is considered to be relevant to the contact area of the deodorizer to the odorant, this is a critical feature in the data provided. In order to make the claimed range commensurate in scope with the support in the specification, in the tables, the claims should, at a minimum,

- 1) Restrict the content of metal oxide
- 2) Restrict the particle size of the metal oxide
- 3) Limit the metal hydroxide complex to those present in the examples

With respect to argument (B), applicant's arguments have been considered but are **not persuasive**. In order to teach away from a claimed range, the prior art must contraindicate the claimed range, not simply state a preference for another, narrower range. Yamada discloses 5:1-1:5, preferably 1:4-4:1, more preferably 1:3-3:1. This is 83:17-17:83, preferably 80:20-20:80, more preferably 75:25 - 25:75. The most broadly disclosed range overlaps with the instantly claimed range. While Yamada does not recite the most broadly disclosed range as the most preferred narrower range, this does not negate a finding of obviousness under 35 USC 103 since a preferred embodiment such as an example is not controlling. Rather, all disclosures "including unpreferred embodiments" must be considered. *In re Lamberti* 192 USPQ 278, 280 (CCPA 1976) citing *In re Mills* 176 USPQ 196 (CCPA 1972). Therefore, it would have been obvious to one of ordinary skill in the art to utilize any point in Yamada's most broadly disclosed range, given that Yamada teaches it.

With respect to argument (C), applicant's arguments have been considered but are **not persuasive**. First, the specification provides examples in which the major

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variation appears to be the resin type into which the Zn-Si/Al particles are placed.

Additionally, there is only a single instance of inventive example showing Zn-Al, and a single instance showing a content other than 0.50 mass parts of the oxide hydrate. As such, only Examples 1 and 8 and Comparative Example 5 and 6 are appropriately comparable as having the same resin and content of oxide hydrate. However it is not possible to make a determination from this as to whether there are unexpected results.

The Zn/Si particles have varying compositional ratios, but also vary significantly in size (.36 micron vs. less than 250 micron and less than 1 micron.) Thus it is not clear whether the compositional ratio or the size of the particles is the critical characteristic which impacts the variation in the resulting deodorizing and H₂S removal. In fact, given that the particle size, and resulting surface area is directly related to the area available to contact the odiferous contaminant, it is expected that the surface area of the particle would have a distinct impact on the effectiveness of a deodorizing particulate.

Furthermore, applicant has not clearly presented data on the statistical relevance of the results; it is not clear whether the presented results are a single experiment, or a series of repeats, nor is it clear what sort of differences would be statistically relevant given the experimental setup and protocol as well as the standard detection abilities of the equipment in question. Thus, the data does not establish the required nexus between the variables in question and the results, and applicants have not met their burden of establishing that the results are unexpected.

Furthermore, the language of Claim 1, as currently recited, requires an absorbent resin obtainable by polymerizing an unsaturated monomer having an acid group, and a

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complex oxide hydrate containing zinc and silicon or zinc and aluminum where Zn/Si-Al is 82/18 – 99/1. The data provided presents 6 specific resins, and in each case save one, a content of 0.50 mass parts of the oxide hydrate to 100 parts of resin, with the other sole example providing 0.1 mass parts per 100 parts of resin. This is a VERY narrow range, which is not commensurate in scope with the claims. The claims recite an extremely generic resin requiring only an unsaturated monomer having an acid group, and do not recite any compositional amounts for resin and oxide hydrate content. Thus even if the data did establish unexpected results for the narrow scope of the data presented, the data would not provide unexpected results for the currently claimed invention.

With respect to argument (D), Applicant is advised that the provisional obviousness-type double patenting rejections of record over copending **Application No. 10/555,707**, copending **Application No. 10/570,965**, copending **Application No. 11/662,590**, and **U.S. Patent No. 7473470** will be maintained until properly overcome.

In the interest of compact prosecution, it is further noted that:

Claim 1 and 8 recite “an absorbent resin **obtainable** by polymerizing...” which is indefinite due to the word “obtainable” which should be replaced with “obtained.” It is not understood how one can claim something (a coating) which does not yet exist, but which is obtainable through some future step or means.

/D. D. L./
Examiner, Art Unit 1796

/Milton I. Cano/
Supervisory Patent Examiner, Art Unit 1796